

CURRENT LISTING OF PENDING CLAIMS**What Is Claimed Is:**

Claims 1-19 have been cancelled previously without prejudice. Claims 20-39 have been previously presented. The following is a list of all pending claims. The following listing of claims will replace all prior versions, and listings, of claims in the application.

Claims 1-19. (Cancelled)

20. (Previously Presented) A method of informing a vehicle operator to improve the operator's performance, the method comprising the steps of:

receiving vehicle operating data from the vehicle relating to the vehicle operating condition;

monitoring an interior portion of the vehicle and receiving operator activity data from the interior portion of the vehicle relating to activities of the operator within the interior portion;

receiving vehicle environment data from the environment external to the vehicle;

monitoring the vehicle operator and receiving operator condition data relating to a condition of the vehicle operator;

estimating an operator cognitive load; and

prioritizing vehicle information based upon the operator cognitive load for selectively informing the operator of the vehicle information.

21. (Previously Presented) The method of claim 20, wherein the step of estimating an operator cognitive load comprises synthesizing and summarizing the vehicle operating data, the operator activity data, the environment data and the operator condition data.

22. (Previously Presented) The method of claim 21, wherein the step of synthesizing and summarizing comprises providing a sensor fusion apparatus within the vehicle.

23. (Previously Presented) The method of claim 21, wherein the step of synthesizing and summarizing comprises determining existence of at least one of: a problem condition, a problem correction, a problem exacerbation, an operator task requirement, an agent task requirement, completion of an operator task, completion of an agent task and a situation change.

24. (Previously Presented) The method of claim 21, wherein the step of estimating a cognitive load comprises determining a measure of work needed to manage a particular task.

25. (Previously Presented) The method of claim 20, wherein the step of prioritizing vehicle information comprises determining existence of an operator task and requesting operator response to the operator task.

26. (Previously Presented) The method of claim 20, wherein the vehicle information comprises either of an alert and a warning.

27. (Previously Presented) The method of claim 20, the method further comprises receiving operator history data, and wherein the step of estimating operator cognitive load comprises estimating operator cognitive load based in part on the operator history data.

28. (Previously Presented) The method of claim 20, the method further comprises receiving operator preference data, and wherein the step of estimating operator cognitive load comprises estimating operator cognitive load based in part on the operator preference data.

29. (Previously Presented) A method of providing information to an operator of a vehicle, the method comprising the steps of:

- generating a master condition list, the master condition list being a fusion of sensor data within the vehicle and including an indicator of operator cognitive load;
- determining an operating situation of the vehicle based on the master condition list;
- and
- prioritizing information presented to the operator based upon the operating condition.

30. (Previously Presented) The method of claim 29, wherein the operating situation comprises one of: a problem condition, a problem correction, a problem exacerbation, an operator task requirement, an agent task requirement, completion of an operator task, completion of an agent task and a situation change.

31. (Previously Presented) An apparatus for providing information to an operator of a vehicle, the apparatus comprising:

- a sensor fusion module, the sensor fusion module being coupled to a vehicle condition sensor, a vehicle exterior sensor, an operator condition sensor and an operator activity sensor respectively providing to the sensor fusion module vehicle condition data, vehicle environment data, operator condition data and operator activity data, the sensor fusion

module operable to provide a master condition list based on the data received by the sensor fusion module, the master condition list including an indicator of operator cognitive load;

a response selector coupled to the sensor fusion module, the response selector being operable to determine a current operating condition based upon the master condition list and to assess an operator action in response to the current operating condition to provide an operator performance assessment value based upon the master condition list and the operator action; and

an action generator coupled to the response selector to generate an indication; and

an operator interface coupled to the action generator to convey the indication to the operator.

32. (Previously Presented) The apparatus of claim 31, wherein the vehicle condition data comprises at least one of: vehicle speed, vehicle acceleration, throttle application, brake application, steering wheel input, throttle position, rate of change of throttle position, additional available throttle input, throttle applicator pressure, brake position, rate of change of brake position, additional available brake input, brake applicator pressure, steering wheel position, rate of change of the steering wheel position, operator pressure applied to the steering wheel and additional available steering input.

33. (Previously Presented) The apparatus of claim 31, wherein the operator activity data comprises usage data relating to at least one of driving controls, telematics controls, occupant comfort controls, infotainment controls and communication controls.

34. (Previously Presented) The apparatus of claim 31, wherein the operator condition data comprises data relating to at least one of fatigue, intoxication and distraction.

35. (Previously Presented) The apparatus of claim 31, wherein the vehicle environment data comprises data relating to at least one of road condition, lane following, headway, traffic control and traffic condition.

36. (Previously Presented) The apparatus of claim 31, wherein indication comprises at least one of a visual indication, an audio indication and a haptic indication.

37. (Previously Presented) The apparatus of claim 31, wherein the indication comprises a pre-recorded message.

38. (Previously Presented) The apparatus of claim 31, wherein the indication comprises prioritized information.

39. (Previously Presented) The apparatus of claim 31, wherein the indication conveys one of an operator task and an agent task.